

88. *Depéretia*, a New Subgenus of *Cervus*, with a Note on a New Species from the Pleistocene of Japan.

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Associated with *Elaphurus* and *Parastegodon*, a group of *Anoglochis*-like deers made its appearance in Japan during the Pliocene, which was a period very critical to mammalian life. Analogy in the deer fauna of the Upper Pliocene of China and Japan is significant; the Nihowan fauna of North China has *Elaphurus bifurcatus* Teilhard and Piveteau, *Cervus (Eucladoceros) boulei* Teilhard and Piveteau, and *Cervus (Rusa) elegans* Teilhard and Piveteau among others, while the Umegase fauna of Kazusa province, Japan comprises *Elaphurus davidianus* Milne-Edwards and *Cervus (Anoglochis?) kazusensis* Matsumoto.

Elaphurus and *Anoglochis* are closely allied to one another as already pointed out by Lydekker.¹⁾ The arde deer (*Anoglochis*) which flourished in the Pliocene of Europe seems to have also lived in the Pleistocene of Japan as a relic element, prior to the vigorous development of *Cervus (Sika) ezoensis* Heude and *C. (S.) nippon nippon* Temminck; this is what I formerly described as *Cervus (Anoglochis?) praenipponicus* Shikama, a noteworthy animal in the Pleistocene of Japan.²⁾ In this article I wish to report another new arde deer-like form from the Pleistocene of Akasi, Japan, and the two are now thought to represent a new subgenus *Depéretia*.

Genus *Cervus* Linnaeus, 1766

Subgenus *Depéretia* subgen. nov.

Subgenotype: *Cervus (Anoglochis?) praenipponicus* Shikama, 1936.

On a New Species of Fossil Deer, *Cervus* (cfr. *Anoglochis*) *praenipponicus* sp. nov., from Japan, Jour. Geol. Soc. Japan, Vol. 43, No. 510. Type: In collection of the Institute of Geology and Palaeontology, Tohoku Imperial University, Sendai, Japan. Reg. No. 58804. Collected by the author.

Referred species: *Cervus borbonicus* Croizet and Jobert, 1828.

Oss. Foss. Puy-de-Dome, Cervidae. Type: Preserved in the Paris Museum, Croizet collection.

Diagnosis: Antlers moderate, without a brow tine; surface rather smooth, lacking distinct tubercles or grooves. Distinguished from *Anoglochis* Croizet and Jobert by the beam which is straight below bifurca-

1) Lydekker, R. (1898): The Deer of All Lands, London.

Shikama, T. (1936): On the Akasi Group, Jour. Geol. Soc. Japan, Vol. 43, No. 515.

2) Shikama, T. (1936): On a New Species of Fossil Deer, *Cervus* (cfr. *Anoglochis*) *praenipponicus* sp. nov., from Japan, ibiden, No. 510.

tion and divides high above burr and lacks distinct crowns or frequently branching tines of tip portion.

Distribution: Europe (Pliocene), and Eastern Asia (Pliocene or Pleistocene).

Cervus (Depéretia) naorai sp. nov.

Holotype: A proximal portion of a young, probably right antler.

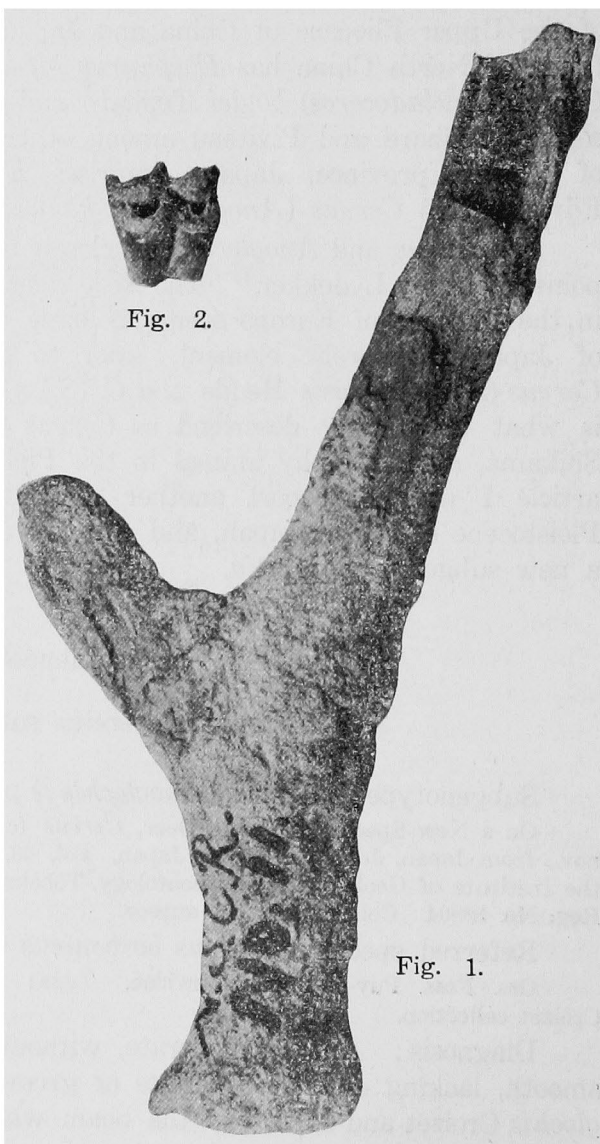
Paratype: A tooth found associated with the holotype. Holotype and paratype in the collection of Mr. N. Naora.

Locality: Huzie near Akasi.

Diagnosis: 1, First tine branches off high above burr; slender and not very long. 2, Beam straight and bent backwards, but not as strongly as in *Cervus (Sika) ezoensis* Heude, angle of beam and first tine less than 60° , but moderately acute compared to those of Sikine group. Nearly cylindrical, rather flat above burr; both outer and inner appearance very similar to each other. 3, Surface of antler very smooth, without distinct tubercles or grooves.

Description:

Holotype: Larger part from basal part of burr to tip of beam coated with white consolidated sand; upper part of beam free from coating, smooth on surface with neither tubercles nor longitudinal grooves. Beam nearly straight, both above and under bifurcation and cylindrical; margin of burr much damaged, probably circular. Pedestal lost. Distance between burr and bifurcation point moderately long, 75.5 mm. Burr to broken end of beam 167.5 mm long in straight line; bifurcation to the end of beam 99.5 mm long, tine as preserved



Cervus (Depéretia) naorai subgen. et. sp. nov.

Fig. 1. Holotype. A proximal portion of a young antler. $\times 0.8$

Fig. 2. Paratype. A tooth associated with the holotype. $\times 0.8$

31.0 mm. Angle between beam and tine about 55°. General shape slender.

The dimensions of the antler as preserved are as follows (in mm):

| | Burr | Below bifurcation | Middle portion of beam |
|-----------------------|------|----------------------|---------------------------|
| Circumference | 98.5 | 94.0 | 66.5 |
| Fore-&-aft diameter | 31.5 | 37.5 | 18.0 |
| Side-to-side diameter | 29.5 | 29.5 | 20.0 |

Paratype: Well preserved and probably belongs to the same individual as that of the holotype specimen. Brownish black in colour; probably belongs to second or third molar of upper right side; 17.0 mm in length and 14.5 mm in width. Inner crescent projects more anteriorly than posteriorly although both crescents are better developed in size posteriorly than anteriorly; outer crescent showing same tendency, and provided with two vertical folds and a distinct median costa. Accessory column not present. Posterior valley larger than anterior. Anterior and posterior folds not seen. In general, differing considerably from teeth of *Cervus (Sika) ezoensis* Heude or allied deers.

Remarks: This species is distinguishable from *Cervus (Depéretia) praenipponicus* Shikama (op. cit.) by the smooth surface of antler. The latter abundant in the Upper Kuzuü formation (fissure deposits) of Simotuke province and the Pleistocene mammalian bed of the Inland sea (Seto-Uti), is related to *Cervus (Depéretia) borbonicus* Croizet and Jobert although distinguishable in having more tuberculous surface of antler and in the lower position of its second tine. *Cervus borbonicus* occurs in Villafranchian deposits of Perrier in France and is referred by Depéret to the subgenus *Axis* of Smith, while by Lydekker to *Anoglochis* of Croizet and Jobert. The Japanese form resembles the Trinil Chital, *Cervus (Axis) lydekkeri* Martin and the Nihowan Sambar, *Cervus (Rusa) elegans* Teilhard and Piveteau, however, the basal portion of their antlers removes them from the same subgenus as *borbonicus* or the Japanese form. The first tine of Sambar branches off directly above the burr while that of the present antler is considerably higher.

Borbonicus and *praenipponicus* both differ from *ardeus*, the subgenotype of *Anoglochis*, by the straight beam to pedestal and the less numerous tines branching at the upper portion of the antlers. I cannot agree with Lydekker in referring the first species to the subgenus *Anoglochis*, and the new subgenus *Depéretia* is here proposed for *naorai* and *praenipponicus* among the Japanese forms and *borbonicus* among the European forms. Although lacking the larger part of the main beam, the antler now at hand may probably be referable to the same subgenus as that of *praenipponicus*.

Age and horizon: The holotype was derived from a sandy bed exposed at Huzie near Akasi, which can stratigraphically be correlated to the Maiko shell-bed, east of Akasi. The Maiko shell-bed is now generally accepted on its molluscan fauna as Lower Pleistocene in age.

The subgenus *Depéretia* ranges, I believe, from Upper Pliocene to Middle Pleistocene.

Finally I wish to express my thanks to Prof. H. Yabe and Mr. K. Hatai for supporting me in many ways during the preparation of this article. Acknowledgements are also due to Mr. N. Naora for generously permitting me to study the specimens in his collection.
